

ABSTRACT

Method of processing of thermoplastic polymeric material, an apparatus and composition of the thermoplastic polymeric material

The present invention relates to processing of thermoplastic polymers, for example to injection molding and extrusion. More particularly the present invention relates to extrusion of polyolefin resins, especially polyethylene resin, and could be used in manufacture of polymer profile, isolating jacketing at electrical cable, polymer tube and film in blown film process. The present invention is directed to increase rate of defect free extrusion. Other objects of the present invention are: to lower cost of the used additives, to lower amount of additives during extrusion of polymer melts with fillers, to simplify design of equipment, which is used for processing of polymeric materials, to save energy, which is necessary for processing, to improve product appearance and its mechanical performances. In accordance with the present invention molten thermoplastic polymeric material is comprising additives of elastomers and an elastic layer substantially coats at least a portion of the die cavity inner wall adjacent to the die exit during extrusion. A composition of thermoplastic polymeric material is comprising polyolefins and elastomers, wherein said elastomers are selected from thermoplastic elastomers based on block copolymers or raw rubbers which cure in situ at the die inner wall. In a particular embodiment of the present invention a die inner wall has catalytic activity to appropriate reaction of rubber vulcanization.